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| EXAMINER | |
|---|---|
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| ART UNIT | PAPER NUMBER |
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| 2143 | |

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Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/658,705 | LEE, HORNG-JUING | |
| | Examiner | Art Unit | |
| | J. Bret Dennison | 2143 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *08 November 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-23,28-63,69-73 and 78-83* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23,28-63,69-73 and 78-83* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

1. This Action is in response to Amendment for Application Number 09/658,705 received on 08 November 2004.

2. Claims 1-23, 28-63, 69-73, and 78-83 are presented for examination.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-23 28, 78, and 79 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claims 1 and 28 recite the limitation "in the network". There is insufficient antecedent basis for this limitation in the claim. Examiner will interpret the limitation as "in the network environment". Appropriate correction is required.

5. Claim 1 recites the limitations "each title is divided" and "in the titles". There is insufficient antecedent basis for this limitation in the claim. Examiner will interpret the limitations as "each media data title" and "in the media data titles". Claim 28 recites similar limitations (ex. "said titles"). Appropriate correction is required.

6. Claim 1 recites the limitation "for transmitting data in the titles to the proxy server". It is unclear to Examiner what this limitation means.

7. Claim 28 recites the limitation "at least some titles". Using the limitation "some" fails to particularly point out and distinctly claim the subject matter. It is unclear to Examiner how many titles "some titles", "such titles" is referring to. Claim 29 recites similar limitations "a number but not all of units" and "only some but not all" which are also unclear in the same manner. It is unclear to Examiner how many units "a number but not all" is referring to.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-23, 28-63, 69-73, and 78-83 are rejected under 35 U.S.C. 102(e) as being anticipated by Ong (U.S. Patent Number 5,815,662).

9. Regarding claims 1, 28, 29, 38, 41, 68, 78-83, Ong discloses a method of caching in a system for transmitting a plurality of media data titles to one or more clients from a central server and a proxy server located in a network environment, said proxy server located in the network between the central server and the one or more clients

(Ong, Figure 1, Ong discloses a central data storage 12containing all media titles of the system which is external to media server 10, wherein the media server 10 is between the central data storage and the one or more clients), wherein each title is divided into blocks to be transmitted to the one or more clients in a time sequence (Ong, col. 3, line 7), and each block is divided into sub-blocks (Ong, col. 2, lines 35-40, Ong discloses dividing data files into blocks of predetermined size), comprising:

identifying which sub-blocks from different blocks of each title that are to be cached based on request frequency, wherein the identified sub-blocks include sub-blocks that are distributed over the blocks of at least one title (Ong, col. 4, lines 1-10, col. 5, last paragraph, Ong discloses checking which blocks are in the media server's memory);

caching only the identified sub-blocks at the proxy server to reduce the transmission bit rate of the central server in the network environment for transmitting data in the titles to the proxy server (Ong, col. 4, lines 55-60, Ong discloses caching blocks the identified blocks of data); and

combining sub-blocks of a title cached at the proxy server with sub-blocks of the title not cached at the proxy server and transmitted from the central server to the proxy server for delivery to the one or more clients, so that the transmission bit rate of the central server is reduced (Ong, col. 4, lines 55-60, Ong teaches retrieving any blocks of data, that are not in the cache, from the data storage and combining them with the cached blocks and sending the blocks to the requesting clients, reducing the

transmission bit rate of the data storage by reducing the amount of data blocks requested from the data storage).

Claims 28 and 29 recite a plurality of proxy servers providing the same function claimed in claim 1 and is therefore rejected by the same art as claim 1, as being substantially similar. Claims 38 and 68 recite similar limitations of claim 1 and are therefore rejected by the same art as claim 1 as being substantially similar. Claim 41 recites a computer readable storage device including the same limitations as claim 1. Because Ong teaches the method of claim 1 on a computer readable storage device, claim 41 is rejected by the same art as claim 1 as being substantially similar.

10. Regarding claims 2, 30, 39, 42, and 69, Ong discloses the invention substantially as claimed, as described in claims 1, 28, 29, 38, 41, and 68, including wherein the cached sub-blocks are cached for time periods that are independent of time (Ong, col.2, lines 30-67).

11. Regarding claim 5, 45 and 46, Ong discloses the invention substantially as claimed, as described in claims 1, 28, 29, 38, 41, and 68, including wherein the media titles include video titles, and the sub-blocks comprise partial information of video frames, wherein the video frames are to be transmitted sequentially further comprising combining the partial information of video frames from the proxy server with complementary partial information of such video frames from the central server into

complete video frames and sending the complete video frames to the client(s) (Ong, col. 3, lines 42-45, col. 4, lines 1-10, 45-60).

12. Regarding claims 9, 49, 73, Ong discloses the invention substantially as claimed, as described in claims 1, 28, 29, 38, 41, and 68, including wherein the identifying is made as a function of an access profile of the titles at the proxy (col. 3, lines 1-15).

13. Regarding claims 11 and 51, Ong discloses the invention substantially as claimed, as described in claims 1, 28, 29, 38, 41, and 68, including wherein prior to any accesses of the titles by the client(s), a proportional caching approach utilizes access history data to determine how much of each title to cache (col. 3, lines 15-25).

14. Regarding claims 12 and 52, Ong discloses the invention substantially as claimed, as described in claims 1, 28, 29, 38, 41, and 68, including wherein after the system starts operation, cache content at the proxy server will change from time to time to reflect actual access behavior (col. 2, lines 60-67).

15. Regarding claims 17 and 57, Ong discloses the invention substantially as claimed, as described in claims 1, 28, 29, 38, 41, and 68, including replacing a cached portion of a particular title by deleting the most recently cached portion of such title (Ong, col. 4, lines 18-45, Ong teaches releasing the memory buffer based on priority level)

16. Regarding claims 18 and 58, Ong discloses the invention substantially as claimed, as described in claims 1, 28, 29, 38, 41, and 68, including deciding which titles shall be subject to caching replacement using a most current access profile as an indication of a future profile (col. 3, lines 1-15).

17. Regarding claims 19 and 59, Ong discloses the invention substantially as claimed, as described in claims 1, 28, 29, 38, 41, and 68, including keeping track of each access request at the proxy server in order to determine which titles shall be subject to caching replacement (col. 3, lines 15-25).

18. Regarding claims 23 and 63, Ong discloses the invention substantially as claimed, as described in claims 1, 28, 29, 38, 41, and 68, including detecting multiple ongoing requests from clients for a title received at different times during caching in response to an initial request of said title, and increasing the number of sub-blocks cached from the blocks of at least one title in response to a subsequent request of said title (Ong, col. 4, lines 55-67).

19. Regarding claim 37, Ong discloses the invention substantially as claimed, as described in claims 1, 28, 29, 38, 41, and 68, including where the number of units is a function of an access profile of the at least one title at the at least one proxy server (col. 3, lines 1-15).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

20. Claims 3, 4,10, 31, 32, 40, and 71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ong in view of Tanaka et al. (U.S. 5,610,841).

21. Regarding claims 3 and 40 and 43, Ong discloses the invention substantially as claimed, as described in claims 1, 28, 29, 38, 41, and 68. However Ong does not explicitly state wherein the caching caches substantially the same number of sub-blocks for each block of said at least one title. In an analogous art of networking, Tanaka teaches of video sections being of the same size and the sub-blocks are of equal size (col. 4, lines 5-10, 58-61)

22. Therefore, it would have been obvious to one in the ordinary skill in the art at the time the invention was made to incorporate the video server of Tanaka with the predictive memory caching system of Ong for the benefits of minimizing unnecessary repetitive accesses to data storage devices and managing peak-use data loadings by efficient data scheduling by the network server (col. 2, lines 23-27).

23. Regarding claim 4, 31, 32, 44, and 71, Ong discloses the invention substantially as claimed, as described in claims 1, 28, 29, 38, 41, and 68. However Ong does not

explicitly state wherein the media titles include video titles, and the sub-blocks include video frames, and each block is divided into video frames that are to be transmitted sequentially, and further comprising inserting the cached video frames into a stream of video frames from the central server to form a combined stream and sending the combined stream to the client(s). In an analogous art of networking, Tanaka teaches wherein the media titles include video titles, and the sub-blocks include video frames, and each block is divided into video frames that are to be transmitted sequentially (col. 4, lines 5-25), and further comprising inserting the cached video frames into a stream of video frames from the central server to form a combined stream and sending the combined stream to the client(s) (col. 4, lines 5-25, Tanaka teaches that the sub-blocks are transmitted sequentially, enabling real-time video transmission).

24. Regarding claims 10 and 50, Ong discloses the invention substantially as claimed, as described in claims 1, 28, 29, 38, 41, and 68. However Ong does not explicitly state wherein prior to any accesses of the titles by the client(s), an average caching approach utilizes storage at the proxy server by storing a substantially equal number of sub-blocks from each title. In an analogous art, Tanaka discloses video sections being of the same size that the sub-blocks are of equal size (col. 4, lines 5-10, 58-61).

25. Claims 6, 7, and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ong and MacInnis et al. (U.S. 6,570,579).

26. Regarding claim 6, Ong discloses the invention substantially as claimed, as described in claim 5. However, Ong does not explicitly state wherein the partial information comprise video information along some scan lines of video frames, further comprising combining the video information along such scan lines with complementary video information along other scan lines of such video frames from the central server into complete video frames and sending the complete video frames to the client(s).

In an analogous art, MacInnis discloses a video pipeline which supports up to one scaled video window per scan line (col.9, lines 55-65) combined with graphics windows on each scan line (col. 6 lines 50-60). An encoder combines the two inputs into a suitable display format (col. 7, lines 5-15). Therefore, it would have been obvious to one in the ordinary skill in the art at the time the invention was made to combine the media server of Ong with the graphics display system of MacInnis to generate a video feed, containing video and graphics, for the benefit of sending video and graphics data in real time when a plurality of requests are received at a time.

27. Regarding claims 7, and 47, Ong discloses all of the features of claim 5. However, Ong does not explicitly state wherein the partial information comprise video information obtained at a set of sampling times and at a first sampling rate lower than that of a video source from which said information originates, further comprising combining the video information at the lower first sampling rate from theproxy server with complementary video information taken at sampling times different from the set of

sampling times of such video frames from the central server into video data at a sampling rate higher than the First sampling rate and sending the video data at the higher sampling rate to the client(s). In an analogous art, MacInnis discloses a graphics display system where video input 14 is provided by one source and graphics memory 28 is provided by another source (see Figure 1). The system includes a video decoder having a sample rate converter that converts the samples to the frequency of the video signal (col. 2, lines 45-60). An encoder combines the two inputs into a suitable display format (col. 7, lines 5-15).

28. Claims 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ong in view of Tanaka as applied to claim 32 above, and further in view of MacInnis.

29. Regarding claims 33 and 34, Ong and Tanaka teach the limitations, substantially as claims, as described in claim 32, including wherein the at least one proxy server combines the partial information of video frames with complementary partial information of such video frames from the central server into complete video frames and sends the complete video frames to user(s) (Ong, col. 4, lines 40-60). Ong and Tanaka do not explicitly state wherein the partial information comprise video information along some scan lines of video frames, and wherein the at least
one proxy server combines the video information along such scan lines with complementary video information along other scan lines of such video frames from the

central server into complete video frames and sends the complete video frames to the user(s).

In an analogous art, MacInnis discloses a graphics display system where video input 14 is provided by one source and graphics memory 28 is provided by another source (see Figure 1). An encoder combines the two inputs into a suitable display format (col. 7, lines 5-15).

Therefore, it would have been obvious to one in the ordinary skill in the art at the time the invention was made to combine Ong and Tanaka with MacInnis' graphics display system to generate a video feed, containing video and graphics, for the benefit of sending video and graphics data in real time when a plurality of requests are received at a time.

30. Claims 8, 36, 48, and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ong and Valmiki et al. (U.S. 6,636,222).

31. Regarding claim 8, Ong discloses the invention substantially as claimed, as described in claim 5. Ong does not explicitly state wherein the partial information comprise video information in a basic layer and the complementary partial information comprises video information in an enhancement layer, said basic and enhancement layers being defined according to spatial, signal-to-noise or temporal scalability.

Valmiki discloses of a Video and Graphics system that processes data using windows that may overlap or cover one another with arbitrary spatial relationships (col. 6, lines 20-31).

Therefore, it would have been obvious to one in the ordinary skill in the art at the time the invention was made to incorporate the graphics system of Valmiki into Tanaka for the benefit of overcoming the difficulty of decoding video data that has been compressed within an allotted number of clock cycles (col. 1, lines 40-60).

32. The limitations of claims 36, 48, and 72 are covered in the rejection of claim 8. Therefore claims 36, 48, and 72 are rejected by the same references used in claim 8.

33. Claim 13-16 and 53-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ong and Greenwood et al. (U.S. 5,568,181).

34. Regarding claim 13, Ong discloses the invention substantially as claimed, as described in claims 1, 28, 29, 38, 41, and 68. However, Ong does not explicitly state further comprising beginning a caching process at the proxy server after receiving a title request from a client by ensuring there is sufficient bandwidth from said proxy to such client to deliver the request and if not, denying the request.

In an analogous art, Greenwood teaches returning a rejection of the request if sufficient bandwidth is not available (col. 5, lines 17-28).

Therefore, it would have been obvious to one in the ordinary skill in the art at the time the invention was made to combine the media server of Ong with the distribution system of Greenwood to make video distribution to users both economically and technically practical to lesson the difficulty in scheduling viewing and managing the local distribution of video data.

35. Regarding claim 14, Ong and Greenwood teach all of the features of claim 13, including further comprising delivering the complete content of the requested title when such content is in local storage of said proxy server. (Greenwood, col. 1, lines 34-60, Greenwood teaches distribution of video files stored at remote video libraries).

36. Regarding claim 15, Ong and Greenwood teach all of the features of claim 13, including further comprising when said proxy server does not have complete content of the requested title, determining if there is sufficient available backbone bandwidth to carry said title from the central server to said proxy server and if not, rejecting the request. (see Figure 1 and col. 3., lines 5-30, and col. 5, lines 15-30, Greenwood teaches of video libraries providing video files through the local server to the cache if there is sufficient bandwidth).

37. Regarding claim 16, Ong and Greenwood teach all of the features of claim 13, including further comprising activating a progressive caching process to adjust cache content at said proxy server to reflect the requested title (Greenwood, col. 4, lines 17-

35, Greenwood teaches that the cache content is adjusted if the requested file is not in the cache).

38. The limitations of claims 53-56 are covered by the rejections of claims 13-16. Therefore claims 53-56 rejected by the same references used for the rejections of claims 13-16.

39. Claims 20-22, 28 and 60-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ong and Cherkasova et al. (U.S. 6,425,057).

40. Regarding claim 20, Ong teaches all of the features of claim 1. However, Ong does not explicitly state further comprising deciding which titles shall be subject to caching replacement using a current access profile as an indication of the future profile, wherein said deciding include:

defining a time window ending at the time of the caching replacement;

calculating an access frequency of each title in a storage of the proxy server, said access frequency being a function of the accesses to such title during the time window or a portion thereof; and

performing the caching replacement in response to the access frequencies of the titles in the storage.

In an analogous art, Cherkasova discloses of a method and system for caching objects and replacing cached objects based on frequency of requests and time (col. 4, lines 45-53).

Therefore it would have been obvious to one in the ordinary skill in the art at the time the invention was made to combine the media server of Ong with the caching method of Cherkasova to have a method for systematically caching objects and replacing cached objects such that popular media titles are stored in cache and previous media titles are readily replaced. This would benefit users by providing a better cache management of the system for providing popular, on-demand media titles.

41. Regarding claim 21, Ong and Cherkasova teach all of the features of claim 20, including, wherein said access frequency is proportional to the sum of the accesses to such title during the time window or a portion thereof (Cherkasova, col. 4, lines 45-54, Cherkasova teaches the use of frequency of requests for the object).

42. Regarding claim 22, Ong and Cherkasova teach all of the features of claim 20, including wherein said access frequency is proportional to a time-weighted sum of the accesses to such title during the time window or a portion thereof, with the time weighting in favor of accesses occurring more recently in the window (Cherkasova, col. 8, lines 5-25, Cherkasova teaches in a time-dependent implementation, the assignment of a weighting factor may be made dependent on request times).

43. The limitations of claims 60-62 are covered by the rejections of claims 20-22. Therefore claims 60-62 are rejected by the same references used for the rejections of claims 20-22.

***Response to Amendment***

44. Applicant's arguments and amendments filed on 08 November 2004 have been carefully considered but they are not deemed fully persuasive. Applicant's arguments are deemed moot in view of the following new grounds of rejection as explained here below, necessitated by Applicant's substantial amendment (i.e., *by incorporating new limitations into the independent claims which will require further search and consideration*) to the claims which significantly affected the scope thereof.

45. Applicant's arguments with respect to claims 1, 38, 41, and 68 have been fully considered but they are not persuasive. Applicant's arguments include the failure of previously applied art to expressly disclose the teachings of "caching identified files at an intermediary proxy erver located between a central server and the user" and combining the cached units with uncached units from the central server [see Applicant's Response, page 17]. It is evident from the mappings found in the above rejection that Ong discloses the teaching of a proxy server that combines cached blocks of data with uncached blocks of data from a central storage location. Further, it is clear from the numerous teachings (previously and currently cited) that the provision for using a proxy server to cache data was widely implemented in the networking art.

46. Applicant only claims a streaming data to a client by combining cached data with data read from a central server. By Ong teaching handling client requests by combining cached data with uncached data for media on demand systems, Ong shows that the transmission bit rate of the central storage location is reduced.

47. Thus, Applicant's arguments drawn toward distinction of the claimed invention and the prior art teachings on this point are not considered persuasive. It is also clear to the Examiner that Ong clearly teach the independent claims of the Applicant's claimed invention.

48. Applicant's arguments with respect to claims 1, 38, 41, and 68 are deemed moot in view of the following new grounds of rejection, necessitated by Applicant's amendment to the claims, which significantly affected the scope thereof.

49. Furthermore, as it is Applicant's right to continue to claim as broadly as possible their invention, it is also the Examiner's right to continue to interpret the claim language as broadly as possible. It is the Examiner's position that the detailed functionality that allows for Applicant's invention to overcome the prior art used in the rejection, fails to differentiate in detail how these features are unique. As it is extremely well known in the networking art as already shown by Ong as well as other prior arts of records disclosed using a proxy server to reduce transmission bit rate on a central server is taught as well as other claimed features of Applicant's invention. By the rejection above, the applicant must submit amendments to the claims in order to distinguish over the prior art use in the rejection that discloses different features of Applicant's claimed invention.

50. It is the Examiner's position that Applicant has not yet submitted claims drawn to limitations, which define the operation and apparatus of Applicant's disclosed invention in manner, which distinguishes over the prior art.

Failure for Applicant to significantly narrow definition/scope of the claims and supply arguments commensurate in scope with the claims implies the Applicant intends broad interpretation be given to the claims. The Examiner has interpreted the claims with scope parallel to the Applicant in the response and reiterates the need for the Applicant to more clearly and distinctly define the claimed invention.

***Conclusion***

51. **Examiner's Note:** Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

52. Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Bret Dennison whose telephone number is (571) 272-3910. The examiner can normally be reached on M-F 8:30am-5pm.

53. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

54. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

J. B. D.
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